

Teacher Learning in an Online, Self-Directed Environment

Abstract - The Learning to Teach with Technology Studio was developed in response to the needs of teachers in moving beyond the first stage of technology-based professional development by engaging teachers in a directed inquiry course that leads them through the development of an inquiry-oriented, technology-enhanced product to use in their classrooms with their students. The current study considers what happens when teachers are given the opportunity to “own” their learning – that is, they are given the opportunity to select their learning experience and to shape it for themselves.

The Need for Technology-Based Professional Development

Meaningful technology integration has been an elusive K-12 goal. Despite extensive effort, little progress has been made in helping teachers move from novice technology users to becoming advanced users capable of using technology to support student learning in a variety of ways. As pointed out by Byrom & Bingham, “No matter how many computers are available or how much training teachers have had, there are still substantial numbers who are ‘talking the talk’ but not ‘walking the walk’ (2001, p. 10). It is clear that more needs to be done to support technology integration in meaningful ways if technology is to have a positive influence on student learning. In 2000, United States schools rated 28% of their teachers as technology novices and 46% as intermediate users (Meyer, 2001). Similarly, 66% of all teachers in the country still felt either “not at all” or only “somewhat” prepared to use technology in their classrooms (CEO Forum, 2001).

Clearly, the argument for professional development is strong and the need for further professional development is great. However, there are numerous barriers to this happening. For example, teachers consistently report a lack of time as one of their most significant constraints to learning about technology integration. In fact, 82% teachers participating in a nationwide surveyed specifically pointed to a lack of release time for learning technology as one of the biggest barriers to technology use in their classrooms (Meyer, 2001). Further, there is a need for professional development that extends beyond simply teaching basic technology skills and focuses on meaningful uses of technology in the content areas to extend learning opportunities for students.

Promoting Technology Integration via the Web

The Learning to Teach with Technology Studio (LTTS) was developed in response to the needs of teachers in moving beyond the first stage of technology-based professional development. LTTS offers a web-based, self-directed learning experience in which teachers engage in a directed inquiry course that leads them through the development of an inquiry-oriented, technology-enhanced product to use in their classrooms with their students. For example, one course leads teachers through the development of a virtual field trip for learning about the Civil War while another engages teachers in using web-based simulations to teach probability concepts. The LTTS courses are designed to be approximately equivalent to a one-credit hour graduate course in technology. The teacher taking the course determines when and how much to work on the course.

LTTS is built on the notion that a significant reason for low integration in classrooms is that too much professional development is focused on learning *about* technology and not learning *with* technology (Duffy & Grabinger, 1999). LTTS focuses on technology as a tool for supporting student inquiry and problem solving by taking the teachers through the same kind of

process they should be creating for their students. Further, LTTS provides a suite of focused experiences that cater to specific content (e.g., probability, creative writing, or data collection and analysis) or on specific uses of technology (e.g., WebQuests or attending to individual differences). All of the courses present activities that build toward a final product which is typically a lesson or unit plan to implement in the classroom. Each course includes a number of resources – both practical and theoretical – to support teacher learning.

Given the aim of LTTS to support teachers' technology integration efforts while promoting the development of learner-centered experiences for students, our goal in this study was to look at what happens when teachers are given the opportunity to select their learning experience and to shape it for themselves. Our primary questions in this study were: 1) What goals did teachers set for themselves in the professional development experience?; 2) How did the teachers characterize and assess their learning?; and 3) What were the emergent issues in teacher-directed professional development?

Methods

This study used qualitative data and analysis to understand the experiences of 12 teachers participating in an LTTS pilot study. The participants included two media specialists, four middle school teachers, and six elementary teachers. The teachers ranged from novice (first year teachers) to very experienced (more than 14 years in the classroom). Each teacher selected a course from the initial seven in the LTTS catalogue. Participants were paid a small stipend for participation in this study.

Our primary source of data consisted of tape-recorded telephone interviews with each participant. We interviewed each participant every week while they completed their course and conducted a longer, follow-up interview at the end of the course. All interviews were transcribed verbatim. Other sources of data included in the analysis were online deliverables including all written work submitted as part of the course, an initial and follow-up survey that included information on technology use and the goals each participant had, and self-evaluations that were included as part of the LTTS system. For the evaluations, there was one focused on learning and one focused on the final product. For three participants, we also had access to facilitator feedback. The other participants did not interact with the facilitators.

Data were analyzed using coding and sorting methods as well as through the development of tables and visual organizers (Miles & Huberman, 1994; Merriam, 1988). As categories of findings emerged, data were clustered into pools of meaning and the researchers explored alternate explanations for the findings (Coffey, 1996). Once the data were coded and sorted, the researchers focused on addressing each of the research questions outlined above.

Results and Conclusions

The results of this study indicate that LTTS is a clear success in the areas of usability, value, and learning. We found that teachers did take ownership over the development of a product that they found personally meaningful for their classroom. According to teacher accounts, they found the resources in the courses to be the best aspect of LTTS. They also liked the open-ended nature and the step-by-step instructions. What the teachers did not like was, of course, technology problems.

Most of the teachers taking the LTTS courses met their own personal goals for the course and the learning experience. This was found both in the teachers' self-assessment and in the researchers' evaluation of their work. However, we found considerable variation in whether they

met the course developers' intended goals. Certainly, the teachers all learned something in the process of completing the course. It may be worth further inquiry to determine what factors influence teachers' attainment of goals within the courses. It is also worth further investigation to determine how to bring the teachers' expectations and LTTS goals more in-line with each other.

We learned that teachers assessed their learning, largely, based on whether they met the goals for a given activity. While a small number of the participants pushed themselves further, most were simply satisfied by completing the activity. Further, when asked to evaluate their own work, we found that teachers assessed themselves based on their perception of whether they had spent enough time on the course.

The overall perception of the courses was very high. Teachers commented that this was very worthwhile as a professional development experience and many of the teachers would be happy to take another course at some point. They were also very supportive of seeing LTTS adopted by their school systems and reported that they would recommend LTTS to a friend.

There were few findings about LTTS that were negative. However, there were a number of findings that provide the basis for future conversations in the continued development of LTTS and other online learning systems. These include issues of promoting student ownership, goal setting, supporting teachers with facilitators, and defining success.

Works Cited

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